



# The U.S. Department of Defense's Earned Value Management—Analyst Workforce

Stephanie Young, Daniel Tremblay, Roland J. Yardley

For more information on this publication, visit [www.rand.org/t/rr1254](http://www.rand.org/t/rr1254)

**Library of Congress Cataloging-in-Publication Data**

ISBN: 978-0-8330-9196-3

Published by the RAND Corporation, Santa Monica, Calif.

© Copyright 2016 RAND Corporation

**RAND®** is a registered trademark.

**Limited Print and Electronic Distribution Rights**

This document and trademark(s) contained herein are protected by law. This representation of RAND intellectual property is provided for noncommercial use only. Unauthorized posting of this publication online is prohibited. Permission is given to duplicate this document for personal use only, as long as it is unaltered and complete. Permission is required from RAND to reproduce, or reuse in another form, any of its research documents for commercial use. For information on reprint and linking permissions, please visit [www.rand.org/pubs/permissions.html](http://www.rand.org/pubs/permissions.html).

The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.

RAND's publications do not necessarily reflect the opinions of its research clients and sponsors.

**Support RAND**

Make a tax-deductible charitable contribution at  
[www.rand.org/giving/contribute](http://www.rand.org/giving/contribute)

[www.rand.org](http://www.rand.org)

## Preface

---

The role of earned value management (EVM) as a tool for integrated program management across the U.S. Department of Defense has increased in prominence in recent years. The focal point for all policy, guidance, and competency relating to EVM is the Performance Assessments and Root Cause Analyses (PARCA) EVM division, which stood up in 2011, in the Office of the Assistant Secretary of Defense for Acquisition. In July 2014, leaders from across the functional community of defense acquisition professionals signed a charter for the EVM Functional Integrated Product Team (FIPT), for which the deputy director for EVM in the PARCA organization serves as functional lead.

The EVM FIPT charter placed particular emphasis on the FIPT's responsibilities for competency development: "the primary purpose of the EVM FIPT is to support the EVM Functional Lead in the development and integration of EVM competencies across the Defense Acquisition Workforce" (EVM FIPT charter, 2014). In order to execute this responsibility, the EVM FIPT functional lead needed to first develop a deeper understanding of the existing workforce of EVM analysts and how EVM expertise is used in support of defense acquisition. In support of this goal, the deputy director for EVM in the PARCA organization asked the RAND National Defense Research Institute to survey and describe the EVM-analyst workforce.

This research was sponsored by the PARCA EVM division and conducted within the Acquisition and Technology Policy Center of the RAND National Defense Research Institute, a federally funded research and development center sponsored by the Office of the Secretary of Defense, the Joint Staff, the Unified Combatant Commands, the Navy, the Marine Corps, the defense agencies, and the defense Intelligence Community.

For more information on the RAND Acquisition and Technology Policy Center, see <http://www.rand.org/nsrd/ndri/centers/atp.html> or contact the director (contact information is provided on the web page).



# Contents

---

<b>Preface</b> .....	iii
<b>Summary</b> .....	vii
<b>Acknowledgments</b> .....	xiii
<b>Abbreviations</b> .....	xv
 <b>CHAPTER ONE</b>	
<b>Data-Call Purpose and Approach</b> .....	1
Responsibilities of the Performance Assessments and Root Cause Analyses Earned Value Management Division .....	1
Limited Existing Visibility into the Earned Value Management Workforce .....	4
Purpose of the Earned Value Management–Analyst Data Call .....	4
Developing and Fielding the Data Call .....	5
Information Collected as Part of the Data Call .....	7
Data Collection and Analysis .....	8
 <b>CHAPTER TWO</b>	
<b>Findings</b> .....	9
Total Earned Value Management–Analyst Population .....	9
Government-Employee Earned Value Management Analysts .....	11
Earned Value Management Workforce, by U.S. Department of Defense Component .....	15
 <b>CHAPTER THREE</b>	
<b>Potential Applications</b> .....	21
Questions Related to Earned Value Management Workforce Management .....	21
Notional Approach to Rebalancing Certification Requirements .....	22
 <b>CHAPTER FOUR</b>	
<b>Concluding Observations</b> .....	27
 <b>APPENDIX</b>	
<b>Earned Value Management Workforce Data-Call Memo</b> .....	29
<b>References</b> .....	31

## Figures

1.1.	Business Defense Acquisition Workforce, Civilian Retirement Eligibility Distribution, End of Fiscal Year 2008 to End of Fiscal Year 2012.....	5
1.2.	Timeline for Data-Call Development, Fielding, Data Reporting, and Impact ...	7
2.1.	Total Earned Value Management Workforce, Government and Contractors....	10
2.2.	Government Earned Value Management Workforce.....	12
2.3.	Earned Value Management Workforce, Government Only, by Organization and Earned Value Management—Related Work Level of Effort.....	14
2.4.	Earned Value Management Workforce, Government Only, by Career Field and Earned Value Management—Related Work Level of Effort.....	15
2.5.	Government Air Force Earned Value Management Analysts, by Career Field...	16
2.6.	Government Navy Earned Value Management Analysts, by Career Field .....	17
2.7.	Government Army Earned Value Management Analysts, by Career Field .....	18
2.8.	Government Earned Value Management Analysts .....	19
2.9.	Government Fourth Estate Earned Value Management Analysts, by Career Field .....	20
3.1.	Business—Financial Management, Required Courses for Level I and Level II.....	24
3.2.	Notional Adjustment of Business—Financial Management, Required Courses for Level I and Level II.....	25
A.1.	The Action Memorandum .....	30

## Tables

S.1.	Government Population of Earned Value Management Analysts, by Career Field .....	x
2.1.	Total Population of Earned Value Management Analysts, by Personnel Type ...	10
2.2.	Total Population of Earned Value Management Analysts, by Career Field.....	11
2.3.	Government Population of Earned Value Management Analysts, by Career Field .....	13
2.4.	Government Fourth Estate Population of Earned Value Management Analysts, by Career Field .....	20

## Summary

---

The Earned Value Management (EVM) division in Performance Assessments and Root Cause Analyses (PARCA) of the Assistant Secretary of Defense for Acquisition serves as the U.S. Department of Defense (DoD) focal point for all policy, guidance, and competency relating to EVM. EVM's role as a tool for integrated program management across DoD has increased in prominence in recent years; yet, as a cross-functional community, EVM faces challenges in workforce management that communities in designated career fields do not face. EVM is not a designated career field in itself, and DoD does not systematically track its workforce for the purposes of workforce planning in the same way that it tracks members of designated career fields. Yet, insight into the EVM-analyst workforce is necessary for the execution of PARCA's responsibilities to support the development and integration of EVM competencies across the defense acquisition workforce (DAW). In support of its responsibilities to the DAW, PARCA asked RAND to engage stakeholders in the defense acquisition community to develop an approach to fielding a data call in order to gain new insights into the EVM workforce. This report utilizes data emerging from the survey to describe the EVM-analyst population across several dimensions.

### **Limited Existing Visibility into the Earned Value Management Workforce**

The challenge for the PARCA EVM division is that the EVM workforce is not in a single dedicated career field. EVM analysts are assigned to any one of a range of likely career fields, a fact that reflects the extent to which EVM is a management tool useful for executing diverse responsibilities within a program office. The diffuse responsibilities are not only spread within a program office; the DoD components also organize their EVM workforces in unique arrangements, as best suits each component's unique acquisition requirements and culture. As the functional lead for this diverse and cross-functional workforce, the deputy director for EVM needed to develop an innovative approach to collecting the kind of data necessary for effectively executing his or her responsibilities.

## Purpose of the Earned Value Management–Analyst Data Call

The purpose of the EVM data call was to provide visibility into the EVM workforce and develop the situational awareness necessary for effective functional leadership. The goal was to develop data that could be analyzed in order to provide support for the education, training, and functional leadership of personnel who use EVM as part of their jobs. In short, the data call is intended to increase the visibility of the EVM workforce through analysis of empirical data to support change.

## Developing and Fielding the Data Call

As initially conceived, the data call was intended to be integrated into existing DAW reporting, which would provide regular and recurring insight into the state of the EVM-analyst workforce. The model was to be similar to current approaches to identifying and reporting on important elements within the DAW that are not designated career fields. However, through conversations with stakeholders, it became clear that implementing a process for recurring data collection would be untenable. As eventually fielded, the data call provided a one-time snapshot of the EVM-analyst workforce, rather than a recurring and regular data source. This approach was determined to be the course of action that struck the most-appropriate balance between the need for increased visibility into the EVM-analyst workforce and the need to avoid excessively onerous data-reporting requirements. The more-limited snapshot accomplished the most-important intent of the data call: to increase the visibility of the EVM workforce and collect data to inform analysis of empirical data to support change.

The data call fielded by the director for acquisition career management (DACM) representatives included fields necessary for characterizing the EVM workforce along several dimensions. First, we collected data related to *EVM personnel demographics*: type (military, civilian, or contractor); career-field assignment or, for contractors, career-field equivalent; contractor company name; and EVM level of effort (part time or full time). The data call also collected data related to *programs supported by EVM analysts*: command or program office (e.g., program executive office, command, or other organizations); and program level (including acquisition category [e.g., I or II]).

## Findings

The data call identified 1,257 EVM analysts, including both government and support contractors, and provided demographic and program-related data that allowed for several notable findings. Most of the findings describe the government population because this is the population most germane to the development of the Defense Acquisition University (DAU) curriculum, professional development, and certification



requirements. However, this report also provides a brief description of insights the data call provided into the support-contractor population because the DoD EVM-analyst workforce cannot be well understood without also considering the role that support contractors play.

### **Total Workforce of Earned Value Management Analysts**

The data indicate that government employees constitute 84 percent of analysts, and support contractors 16 percent. Of the government employees, civilians make up the overwhelming majority: Ninety-seven percent are civilian, compared with 3 percent military personnel. The defense component with the largest share of its workforce in military billets is the Air Force, with 9 percent. Although 16 percent of the workforce are support contractors, the relative share that contractors constitute of each component varies: Contractors make up 34 percent of the Army workforce, 26 percent of the Navy's, 19 percent of the Air Force's, and 4 percent of the Fourth Estate's.<sup>1</sup>

The data also shed light into the designated career fields (or, for support contractors, career-field equivalents) to which EVM analysts belong. Business—financial management (BFM), engineering, program management, and business—cost estimating (BCE) make up 88 percent of the total workforce. BFM alone constitutes 48 percent of the workforce, with 600 reported analysts. BFM constitutes the largest share of the workforce in each DoD component, but its relative percentage varies significantly: BFM constitutes 30 percent of the Army's workforce, 40 to 50 percent in the Air Force and Fourth Estate, and 71 percent of the Navy's workforce of EVM analysts. The percentage that BFM constitutes of the Navy's EVM-analyst workforce far exceeds that of the other DoD components.

### **Government-Employee Earned Value Management Analysts**

The PARCA EVM division and the responsible representatives in DAU are most focused on the population of EVM analysts who are government employees because it is this population over which they have the most influence on education, training, and professional development.<sup>2</sup>

The data call identified 1,060 EVM analysts who were military personnel or federal civilians. Table S.1 shows the breakdown of that population by DoD component and career field.

---

<sup>1</sup> The Fourth Estate is a "consortium of Defense Agencies supporting the Armed Services. This group includes all organizational entities in the Department of Defense that are not in the Military Departments or the Combatant Commands" (Higgins and Ramsey, 2009, p. 2).

<sup>2</sup> The Defense Contract Management Agency (DCMA) offers its workforce its own courses tailored to unique requirements of DCMA's responsibilities for surveillance of EVM systems. Although this makes the DCMA EVM analyst workforce unique, unless otherwise indicated, this report includes DCMA's EVM analysts in the discussion of DoD's government workforce.

**Table S.1**  
**Government Population of Earned Value Management Analysts, by Career Field**

DoD Component	BFM	BCE	Engineering	Program Management	Other	Total
Army	32	26	8	29	26	121
Navy	147	36	0	15	2	200
Air Force	63	56	11	37	7	174
Fourth Estate	254	2	179	49	81	565
Total	496	120	198	130	116	1,060

NOTE: Includes government EVM analysts from DCMA and does not include contractors.

**Potential Applications**

The EVM functional lead has broad responsibilities for overseeing the current and future competency needs of the EVM-analyst workforce and associated development requirements and for meeting the future human-capital needs of the workforce.

The EVM-analyst data call can be used to support analyses and assessments to support the functional lead in carrying out his or her responsibilities. With respect to competency development, the data call provides visibility into the workforce of analysts who use EVM to do their jobs. This information could be used to help shape EVM-related content in the competency models of designated career fields. It could also support curriculum development at DAU. It also provides decisionmakers with valuable insight into the size and workforce mix of DoD’s EVM analysts. The relative balance of the total force among military, civilians, and contractors could have implications for the professional development, training and certification, and career planning of the EVM workforce. Lessons learned from analysis of the EVM-analyst data might also shed light onto the varied ways in which EVM analysts support a program office. The data show notable variation across both career fields and DoD component. The level-of-effort data suggest that the role that EVM plays in analysts’ overall professional responsibilities varies as well. Additional research could help decisionmakers explore more deeply the different ways in which EVM is used in DoD, and perhaps identify best practices. Such questions are not addressable with the snapshot view this data call provided but might warrant future research.

One notional example of an application of analyses of these data would be a rebalancing of certification requirements for the BFM career field. The largest portion of EVM analysts, by far, is in BFM. However, the BFM career field is a much larger population than the subset that performs EVM. The Center for Naval Analyses recently found that only a fraction of the business workforce used EVM for their jobs (Griffis,

Pittsonberger, and Stafford, 2014).<sup>3</sup> However, just as importantly, survey respondents who did report to the center that they used EVM reported that it was very important for doing their jobs (Griffis, Pittsonberger, and Stafford, 2014, p. 21). This suggests that, although most business personnel do not use EVM in their jobs, most EVM analysts are in BFM and that, for these analysts, EVM is critical for their work. Given this, perhaps there are opportunities to rebalance courses required at various certification levels to ensure that BFM personnel who *do* use EVM can enroll in classes but also that the majority of BFM personnel who *do not* use EVM are not required to take courses. Of course, any decision to rebalance certifications in this way should take into account not just whether a worker uses EVM in his or her current position but also whether EVM will likely be used in the course of an acquisition career.

## Conclusion

EVM analysts' role as a cross-functional community of the DAW presents a unique challenge for maintaining the visibility required to support effective management of EVM competencies and of the EVM-analyst workforce. The EVM-analyst data call, conducted in support of the execution of PARCA's responsibilities as functional lead for EVM, provided new insight into the distribution of analysts by career field and DoD component than had previously existed.

Notably, however, this look at the DoD's EVM-analyst workforce is just a snapshot in time and should be considered the beginning rather than the end of DoD's efforts to systematically track this important element of the DAW. It suggests significant differences in the use and organization of the EVM analysts across the department, which, if better understood, could have implications for identification of best practices or lessons learned.

---

<sup>3</sup> The center also previously developed a competency model for the business workforce (Pittsonberger, 2011).



## Acknowledgments

---

We thank the staff of the Performance Assessments and Root Cause Analyses (PARCA) Earned Value Management (EVM) division in the Office of the Assistant Secretary of Defense for Acquisition, especially Gordon Kranz, then–deputy director for EVM in PARCA, and Kim Hunter, lead for EVM competencies, for their guidance and support. We also extend special thanks to William Parker of Defense Acquisition University and the representatives from the Army, Navy, Air Force, and Fourth Estate offices of the directors for acquisition career management, who provided invaluable leadership in efforts to survey the EVM workforce in each U.S. Department of Defense component: Cevilla Randle, Michelle LeBlanc, Michelle Trigg, and Jonathan Higgins. The data call would not have been fielded without their expertise and support. Finally, we acknowledge the contributions of our RAND colleagues, Bernard Fox and Tara L. Terry, for their careful and thoughtful reviews.

The views expressed herein are our own and do not necessarily represent PARCA policy.



## Abbreviations

---

ACQ	acquisition
BCE	business—cost estimating
BCF	business, cost estimating, and financial management
BFM	business—financial management
CLM	continuous learning module
DACM	director for acquisition career management
DAU	Defense Acquisition University
DAW	defense acquisition workforce
DAWIA	Defense Acquisition Workforce Improvement Act
DCMA	Defense Contract Management Agency
DoD	U.S. Department of Defense
EVM	earned value management
FIPT	functional integrated product team
FL	functional lead
HCI	Human Capital Initiatives
JCIDS	Joint Capabilities Integration and Development System
MDA	Missile Defense Agency
NGA	National Geospatial-Intelligence Agency
PARCA	Performance Assessments and Root Cause Analyses
PCD	position category description

USD(AT&L) Under Secretary of Defense for Acquisition, Technology and  
Logistics



## **Data-Call Purpose and Approach**

---

The Performance Assessments and Root Cause Analyses (PARCA) Earned Value Management (EVM) division in the Office of the Assistant Secretary of Defense for Acquisition serves as the U.S. Department of Defense (DoD) focal point for all policy, guidance, and competency development related to EVM. In support of its responsibilities to the defense acquisition workforce (DAW), in the fall of 2013, PARCA asked the RAND team to engage stakeholders in the defense acquisition community to develop an approach to fielding a data call in order to gain new insights into the EVM workforce. This chapter discusses the purpose of the data call and the RAND team's approach to support its fielding.

### **Responsibilities of the Performance Assessments and Root Cause Analyses Earned Value Management Division**

In 2011, then–Under Secretary of Defense for Acquisition, Technology and Logistics (USD[AT&L]) Ashton B. Carter issued a memo affirming EVM's important role in support of defense acquisition, calling for increased focus on developing EVM practices and competencies, and promoting its increased use across the department. "EVM is one of DoD's and industry's most powerful program management tools," Secretary Carter wrote (Carter, 2011). It is a program management tool that program managers use "to track program execution as they navigate the day-to-day constraints and risks that all DoD programs face." Carter reflected interest that had been growing for years in EVM as a tool to help the DAW achieve better acquisition outcomes. In 2007, for example, one of Secretary Carter's predecessors, Kenneth J. Krieg, then USD(AT&L), issued a memorandum calling on the defense acquisition community to emphasize EVM implementation, utilization in support of decisionmaking, and accountability for noncompliance: "EVM is considered by many in the project management community to be the best option currently available for holding all parties accountable for the effective management of large and complex projects" (Krieg, 2007). Yet, he noted, "Despite the proven value of EVM, we are not maximizing its benefits in managing defense programs."

In Secretary Carter's 2011 memorandum, he assigned responsibility for EVM performance, oversight, and governance across DoD to PARCA. The PARCA office had been stood up as a result of the 2009 Weapon Systems Acquisition Reform Act (Pub. L. 111-23), which aimed to improve DoD organization and procedures in the acquisition of major weapon systems. Secretary Carter explained,

A key element of PARCA's statutory responsibility entails evaluating the utility of performance metrics for cost, schedule, and performance of MDAPs [major defense acquisition programs]. The implementation and use of EVM across the Acquisition Community falls within PARCA's area of responsibility. (Carter, 2011)

This office works to execute this vision by supporting the acquisition community through a variety of actions. As the functional lead (FL) for the cross-functional EVM community, the PARCA EVM division develops and supports integration of EVM competencies across the acquisition workforce, as needed. Previous work on EVM competencies led to the development of an EVM competency model for the program management, business—financial management (BFM), business—cost estimating (BCE), contracting, and engineering career fields, a model that was subsequently vetted through the EVM Functional Integrated Product Team (FIPT) (Yardley et al., 2013). One of PARCA's key responsibilities is the oversight and development of training and educating EVM analysts. Toward this end, the office reviews, recommends modifications for, and approves Defense Acquisition University (DAU) curriculum content and manages EVM courses offered at DAU.

### **Role of the Earned Value Management Analysts in the Defense Acquisition Workforce**

EVM is a technique for tracking the cost, schedule, and performance of acquisition programs. The technique involves the sequencing of work into product-oriented work packages and tracking program progress toward completion of the work. It employs metrics related to cost and schedule to track variance from planned schedule and resource requirements and to estimate cost at completion. This information can be used to inform decisionmakers' assessments of the extent to which programs are on track, to identify risks and develop mitigation strategies.

Beyond being a program-management tool, however, industry reporting on EVM metrics is also required on defense acquisition programs of certain contract types above specific dollar thresholds. This means that many contractors are required to implement EVM systems and to track and report EVM metrics to government program offices. In order to review contractor reports and to maintain accountability and transparency over program progress, the DAW needs to maintain an effective community of EVM analysts.

EVM analysts are needed to support several functions within a program office across phases of an acquisition program.<sup>1</sup> In the source-selection and contract-award phases, for example, EVM analysts might be supporting the program office by, given the nature of the contract, determining the applicability of EVM reporting requirements and ensuring that solicitations for proposals reflect EVM requirements. A defense acquisition worker in the contracting career field might do this work, but he or she will also need to do EVM in order to do his or her job effectively. Similarly, as the program develops, analysts track EVM metrics to support the development and maintenance of baseline cost, schedule, and technical performance and advising the program manager on risks and mitigation strategies as required. These analysts might be in the business (BFM and BCE), engineering, or program-management career fields, but they too must use EVM in order to do their jobs effectively.

The extent to which EVM is required to do the work in several designated career fields means that EVM is a cross-functional community. EVM is not a designated career field, but several designated career fields require competencies in EVM. The leadership of the cross-functional community is the EVM FL, the senior designated subject-matter expert responsible for overseeing “the current and future competency needs of the acquisition workforce, associated development requirements, and [providing] strategies for meeting the future human capital needs of the Defense Acquisition Workforce” (EVM FIPT charter, 2014, p. 1). Central to effectively exercising these responsibilities is the EVM FIPT.

### **Earned Value Management Functional Integrated Product Team**

The adoption of a charter for the EVM FIPT in July 2014 was an important step toward clarifying the shape of PARCA EVM’s support to the defense acquisition community. The charter indicated that the FIPT mission was to support the FL as he or she carried out his or her responsibilities, including those for the “development and integration of EVM competencies across the Defense Acquisition Workforce” (EVM FIPT charter, 2014, p. 1). Several tasks assigned to the FIPT aimed at managing and developing the EVM workforce, including provision of the “requisite information, perspectives, and recommendations to guide decisions related to the EVM workforce,” and issues related to “EVM competencies and competency management, [and] EVM specific courseware curriculum content (reviews and certification) for alignment with competencies” (EVM FIPT charter, 2014, p. 2). Another component of the FIPT mission was to “[i]dentify the EVM analyst primary population to be served by each” EVM-related DAU course and, “when requested, assist the DACMs [directors for acquisition career management] in determining quota requirements” (EVM FIPT charter, 2014, p. 2). In short, the charter indicated, as FL for the EVM community, PARCA was the

---

<sup>1</sup> See Yardley et al., 2013, for information on how different defense acquisition workers use EVM in distinct ways to do their jobs.

lead for developing and integrating EVM competencies into the training of the EVM workforce.

This mandate requires a strong understanding of the nature of the professional responsibilities of the EVM workforce and its training requirements, but such information is not consistently available within DoD. We next turn to data requirements and data availability for the effective management of EVM competencies and the EVM workforce.

## **Limited Existing Visibility into the Earned Value Management Workforce**

DoD collects data that support detailed analysis and reporting on personnel in designated functional career fields.<sup>2</sup> The USD(AT&L) Human Capital Initiatives (HCI) program makes data available from the Defense Manpower Data Center on the acquisition workforce over time, by career field, by service, and includes year-of-service information, as can be seen in Figure 1.1 for the business community, which can support management of the health of a functional community over an entire career (“Human Capital Initiatives,” undated).

For members of a dedicated DAW career field, data collected provide exceptional visibility into the EVM workforce. They can support, for example, the establishment of clear goals for personnel development and the assessment of progress made toward meeting specific objectives and strategic intent and provide an empirical basis to support changes to education, training, and professional development.

## **Purpose of the Earned Value Management–Analyst Data Call**

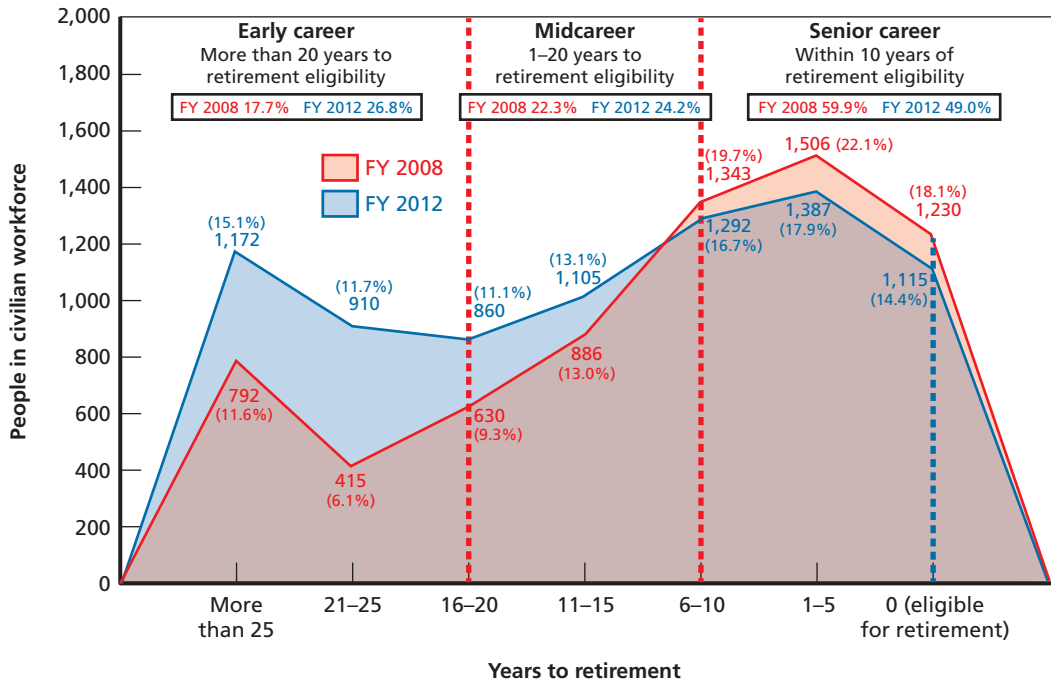
The challenge for the PARCA EVM division, however, is that the EVM workforce is not in a single dedicated career field. EVM analysts are assigned to any one of a variety of likely career fields, a variety that reflects the extent to which EVM is a management tool useful for executing diverse responsibilities within a program office. The diversity is also not only within a program office; the DoD components also organize their EVM workforces in unique arrangements, as best suits each component's unique acquisition requirements and culture. As the FL for this diverse and cross-functional workforce, the deputy director for EVM needed to develop an innovative approach to collecting the kind of data necessary for effectively executing his or her responsibilities.

---

<sup>2</sup> For detailed recent analysis of such data, see Gates et al., 2013.

**Figure 1.1**

**Business Defense Acquisition Workforce, Civilian Retirement Eligibility Distribution, End of Fiscal Year 2008 to End of Fiscal Year 2012**



SOURCES: "Human Capital Initiatives," undated; Defense Manpower Data Center (DMDC) data.

RAND RR1254-1.1

## Developing and Fielding the Data Call

To support the development and fielding of the data call, we served primarily in an integrating role. We facilitated strategy development by meeting with key stakeholders individually and collectively to discuss data inputs and processes for fielding.

As initially conceived, the data call was intended to be integrated into existing DAW reporting, which would provide regular and recurring insight into the state of the EVM-analyst workforce. The model was to be similar to current approaches to identifying and reporting on important components within the DAW that are not designated career fields. International acquisition positions, for example, are identified by means of dedicated coding that allows DoD to maintain visibility across career fields.<sup>3</sup> With this model in mind, the purpose of the EVM data call was to provide visibility into the EVM workforce and develop the situational awareness necessary for effective functional leadership. The goal was to facilitate data collection in support of the edu-

<sup>3</sup> For information on the international acquisition career path, see Kendall, 2014.

cation, training, and functional leadership of personnel who use EVM as part of their jobs, which could support the development of meaningful data analysis allowing for

- understanding the population of the EVM workforce
- prioritizing and tailoring EVM training in support of professional development
- developing policies in support of workforce development
- tracking progress made against workforce development plans
- assessing progress made toward meeting EVM goals.

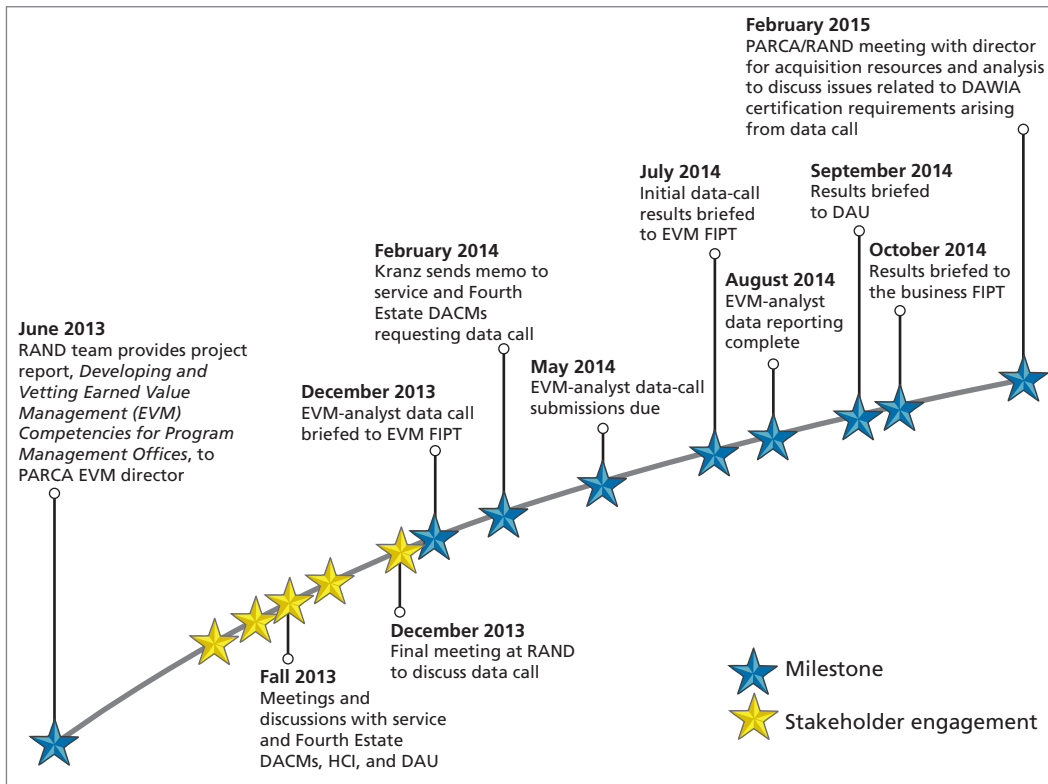
As eventually fielded, the data call provided a one-time snapshot of the EVM-analyst workforce, rather than a recurring and regular data source. This was a more limited look at the workforce than originally envisioned but was deemed the most appropriate balance between the need for increased visibility into EVM-analyst workforce and the need to avoid excessively onerous data-reporting requirements. Although initial plans for recurring data collection proved untenable, the more limited snapshot accomplished the most important intent of the data call: to increase the visibility of the EVM workforce through analysis of empirical data to support change.

An effective approach to fielding the data call and generating useful information required engagement with diverse stakeholders. In the course of developing the data call, the RAND team met individually and collectively several times with DACM representatives of the Army, Navy, Air Force, and Fourth Estate<sup>4</sup> to discuss data requirements and relevant databases and to identify similarities (and challenges) associated with previous data calls so that we would more effectively anticipate challenges with the EVM data call. We also met with representatives from HCI to discuss data and data systems and from DAU to discuss the EVM student body, curriculum, and certification requirements in career fields that require EVM courses. This inclusive approach was required to improve the quality of the data collected by gathering insights into the diverse organization of the acquisition workforce and unique data structure across DoD components, including the Army, the Navy, the Air Force, and the Fourth Estate. The inclusive approach was also important for getting buy-in on the data call from relevant stakeholders, whose effective leadership within each component would ultimately determine the quality of the data collected. In December 2013, the final data-call purpose and approach was briefed to the EVM FIPT. Figure 1.2 shows the timeline for the RAND team's engagements and data-call development, fielding, and data collection.

---

<sup>4</sup> The Fourth Estate consists of the Office of the Secretary of Defense, the joint staff, the combatant commanders, and the defense agencies.

**Figure 1.2**  
**Timeline for Data-Call Development, Fielding, Data Reporting, and Impact**



NOTE: DAWIA = Defense Acquisition Workforce Improvement Act (Pub. L. 101-510, 1990).

RAND RR1254-1.2

## Information Collected as Part of the Data Call

In February 2014, the deputy director of the PARCA EVM division issued a memorandum to the DACMs requesting support in collecting and reporting data on the EVM workforce, which we include as an appendix. PARCA fielded the data call and requested inputs from the DACMs no later than May 2014. The target population was analysts who do EVM in support of their professional responsibilities, even if EVM represents only a fraction of their responsibilities.

The data call included fields necessary for characterizing the EVM workforce along several dimensions. With respect to *EVM personnel demographics*, the data call solicited information in the following fields:

- type (military, civilian, or contractor)
- career-field assignment or, for contractors, career-field equivalent

- contractor company name
- EVM level of effort (part time or full time, with *full time* defined as 80 percent or more of time spent on EVM duties).

With respect to *programs supported by EVM analysts*, the data call solicited information related to command or program office (e.g., program executive office, command, or other organizations); and program level (including acquisition category [e.g., I or II]).

## Data Collection and Analysis

The DACM representatives fielded the data call, provided guidance to relevant program offices, and reported initial submissions to the RAND team in May 2014, though additional submissions continued to arrive for several weeks. The representatives provided the data directly to the RAND team for analysis. As the data arrived, the RAND team worked with the DACMs to interpret the data inputs, including apparent anomalies, and to prepare visualization of the data along several dimensions.

As directed by the deputy director for EVM, the RAND team briefed the results of the data analysis to several stakeholders with responsibilities related to the EVM workforce. Audiences for these results included the EVM FIPT, DAU representatives, and the business FIPT.



## Findings

---

Once complete, the data call identified more than 1,200 EVM analysts, including both government (military and DoD civilians) and support contractors, and provided demographic and program-related data that allowed for several notable findings.

### Total Earned Value Management–Analyst Population

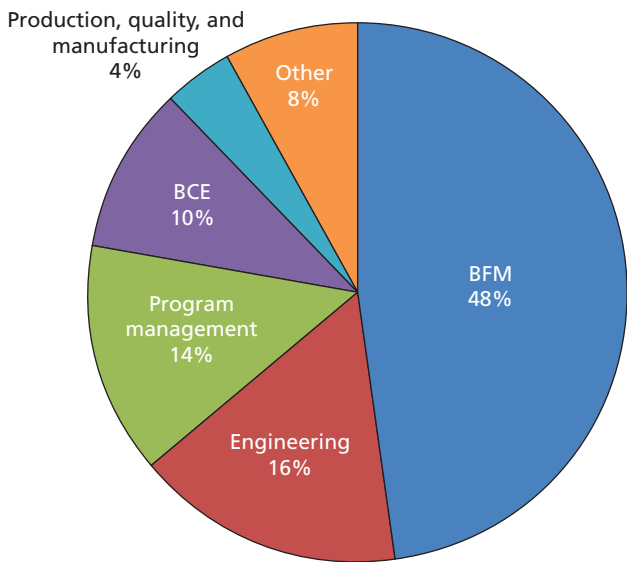
The data call included inputs for both government employees and support contractors with EVM-related responsibilities. Figure 2.1 shows the total EVM workforce surveyed: a total of 1,257 analysts across DoD. The figure note indicates the reported career field or, for the contractor workforce, the self-reported career-field equivalent.

The figure shows some anomalies in the self-reported data; 5 percent of the workforce self-reported nonstandard DAWIA career fields. One source of anomalies was the challenge of self-reporting in general, and especially reporting a “career-field equivalent” for personnel lacking designated career fields—notably, support contractors. Nonetheless, the data suggest that BFM, BCE, engineering, and program management are the career fields in which the population of DoD’s EVM analysts is most concentrated.

Table 2.1 shows how the 1,257 total EVM analysts identified break down by defense component and personnel type. Government employees constitute 84 percent of analysts, and contractors 16 percent. Of the federal workforce, most analysts identified by far were DoD civilians (about 97 percent of the government population of EVM analysts). This is most true in the Navy, in which only one military EVM analyst was identified. Also, support contractors are an important component of the workforce: They constitute more than one-third of the Army’s EVM analysts, about one-quarter of the Navy’s, and about one-fifth of the U.S. Air Force’s.

This report is most concerned with the population of government EVM analysts because this is the population most germane to the development of the DAU curriculum, professional development, and DAWIA certification requirements. Contractors are not required to meet DAWIA certification requirements and generally do not take the same DAU courses. However, the data call also collected information on the support-contractor population because the DoD EVM-analyst workforce cannot be well

**Figure 2.1**  
**Total Earned Value Management Workforce, Government and Contractors**



NOTE: *N* = 1,257. “Other” includes contracting (15 reported), information technology (ten reported), science and technology manager (seven reported), facility engineering (three reported), life-cycle logistics (one reported), and test and evaluation (one reported). In addition, it includes some self-reported career fields that are not recognized DAWIA career fields: DAWIA position category description (PCD) restricted (Y) (19 reported), blank (16 reported), EVM (11 reported), scheduler (two reported), configuration manager (two reported), change management (two reported), capability manager for transportation (two reported), program analyst (two reported), quartermaster capability determination for aerial delivery (two reported), master schedule (two reported), budget analyst (one reported), release management (one reported), trend analysis (one reported), sustainment-related Joint Capabilities Integration and Development System (JCIDS) (one reported), and system acquisition manager (one reported).

RAND RR1254-2.1

**Table 2.1**  
**Total Population of Earned Value Management Analysts, by Personnel Type**

DoD Component	Military	Civilian	Contractor	Total
Army	11	110	61	182
Navy	1	199	72	272
Air Force	19	155	41	215
Fourth Estate	5	560	23	588
Total	36	1,024	197	1,257

NOTE: Includes government EVM analysts from Defense Contract Management Agency (DCMA) and support contractors.

understood without also considering the role that support contractors play. For example, given the different certification requirements for contractors, the workforce training and development for support-contractor EVM analysts might be distinct from the government workforce. Understanding whether or how this affects the performance or development of this important component of the EVM-analyst workforce could be important to support decisionmaking.

Table 2.2 shows the self-reported career field or, for the contractor workforce, self-reported career-field equivalent, by defense component.<sup>1</sup> Although Figure 2.1 showed that BFM, BCE, engineering, and program management are career fields with substantial numbers of EVM analysts, Table 2.2 shows that there are notable differences across defense components. In each component, BFM makes up the largest share of EVM analysts, but the distribution looks significantly different across defense components. For example, in the Navy, about 70 percent of EVM analysts are in BFM, but less than one-third of the analysts in the Army are in BFM. In the Army, analysts are about as likely to be in BFM as they are to be in program management. The 27 percent of Army’s EVM analysts in program management is larger than in the other components. The 30 percent of the Fourth Estate in the engineering career field is also larger than in the other components, for which engineering constitutes 5 percent or less.

Government-Employee Earned Value Management Analysts

The PARCA EVM division and DAU are most focused on the population of EVM analysts who are government employees. Government EVM analysts are the compo-

Table 2.2  
Total Population of Earned Value Management Analysts, by Career Field

DoD Component	BFM	BCE	Engineering	Program Management	Other	Total
Army	54	29	8	50	41	182
Navy	193	37	3	35	4	272
Air Force	85	56	11	42	21	215
Fourth Estate	268	2	179	49	90	588
Total	600	124	201	176	156	1,257

NOTE: Includes government EVM analysts from DCMA and contractors.

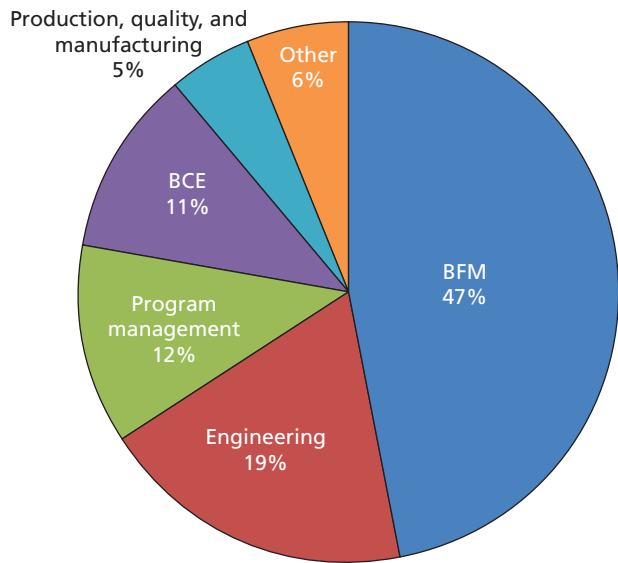
<sup>1</sup> For example, for the program-management career field for civilian personnel, typical career codes include 0340, 0343, 06xx, 08xx, 1101, 13xx, and 1515; for military personnel, they are Army areas of concentration 51A and 67; Navy additional qualification designation AAx; Air Force specialty codes 60CX and 63AX; and Marine Corps military occupational specialties (MOSs) 8057, 8058, 8059, and 8060.

ment of the workforce for which PARCA and DAU play the largest role in shaping in terms of education, training, and professional development.<sup>2</sup> The EVM-analyst data call identified 1,060 EVM analysts.

Figure 2.2 shows the breakdown of the 1,060 EVM analysts by career field. In this population, again, BFM, engineering, program management, and BCE are the career fields with the largest population of EVM analysts; together, these four career fields constitute 89 percent of the government workforce. The BFM population alone makes up about 47 percent of the total population identified.

Table 2.3 shows the breakdown of the government workforce by career field and by DoD component; it is parallel to Table 2.2, which showed the total population of EVM analysts. As is true for the total workforce, for the government-only workforce, BFM, BCE, engineering, and program management are the career fields with

**Figure 2.2**  
**Government Earned Value Management Workforce**



SOURCE: RAND analysis.  
NOTE:  $N = 1,060$ . “Other” includes contracting (12 reported), information technology (ten reported), science and technology manager (seven reported), facility engineering (three reported), blank (two reported), test and evaluation (one reported), and life-cycle logistics (one reported). In addition, it includes some self-reported career fields that are not recognized DAWIA career fields: DAWIA PCD Y (19 reported), capability manager for transportation (two reported), quartermaster capability determination for aerial delivery (two reported), EVM (one reported), sustainment-related JCIDS (one reported), and system acquisition manager (one reported).

RAND RR1254-2.2

<sup>2</sup> DCMA offers its workforce its own courses tailored to unique requirements of DCMA’s responsibilities for surveillance of EVM systems. Although this makes the DCMA EVM-analyst workforce unique, unless otherwise indicated, this report includes DCMA’s EVM analysts in the discussion of DoD’s government workforce.

**Table 2.3**  
**Government Population of Earned Value Management Analysts, by Career Field**

DoD Component	BFM	BCE	Engineering	Program Management	Other	Total
Army	32	26	8	29	26	121
Navy	147	36	0	15	2	200
Air Force	63	56	11	37	7	174
Fourth Estate	254	2	179	49	81	565
Total	496	120	198	130	116	1,060

NOTE: Includes government EVM analysts from DCMA and does not include contractors.

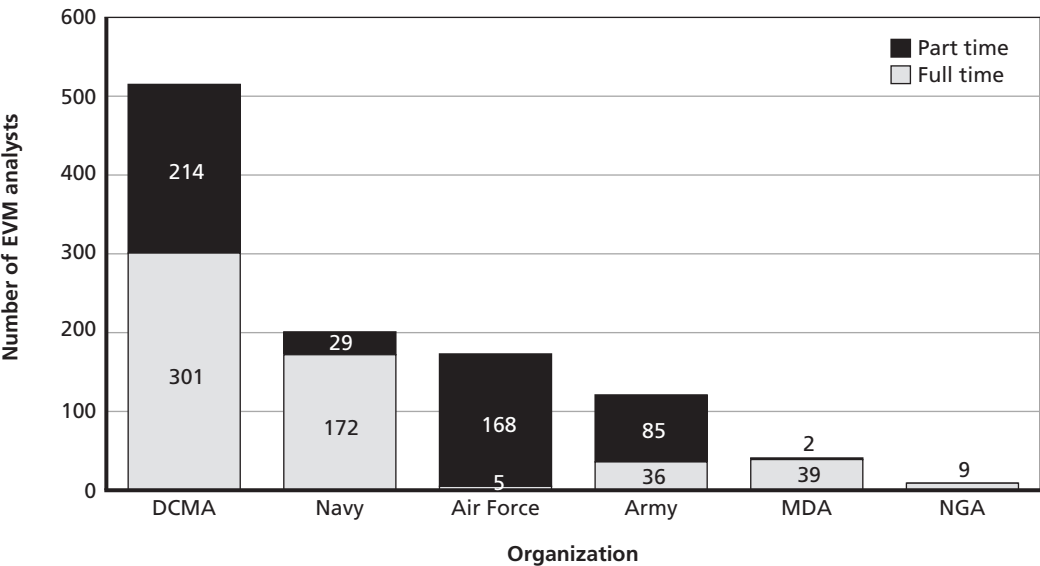
the most-substantial numbers of EVM analysts. Table 2.2 also shows that there are notable differences across DoD components.

In each component, BFM makes up the largest share of EVM analysts, but there are differences across components. For example, in the Navy, almost three-quarters of analysts are in BFM, while less than one-third of the Army's workforce is in BFM. As is true for the total workforce, in the Army, analysts are about as likely to be in BFM as they are to be in program management. The 24 percent of Army's EVM analysts in program management is somewhat less than the 27 percent that program management constituted of the Army's total workforce and puts it roughly in line with the share of the Air Force's EVM-analyst workforce in the program management career field (21 percent). The 32 percent of the Fourth Estate in the engineering career field is larger than in the military departments, none of which reports an engineering EVM-analyst workforce above 7 percent.

The data call also sheds light into the level of effort analysts reported that EVM constitutes of overall professional responsibilities. Figure 2.3 shows the government EVM-analyst workforce by organization (the military departments and the three defense agencies reporting analysts) and EVM level of effort. Self-reported analysts reported that EVM-related work constituted either full- or part-time work. Employees who self-identified as full time indicated that they spent 80 percent or more of their time on EVM-related responsibilities.

There are notable differences in the relative distribution of full- and part-time EVM analysts across DoD components. Although the Air Force and the Navy have similar overall numbers of analysts, the Navy uses a much larger percentage of EVM analysts on a full-time basis (86 percent) than the Air Force does (3 percent). No other component approaches the Air Force's percentage of analysts who report doing EVM on a part-time basis. We make no comment of what the appropriate balance should be; we note the distribution only to emphasize that the organization of the EVM workforce varies tremendously across DoD components.

**Figure 2.3**  
**Earned Value Management Workforce, Government Only, by Organization and Earned Value Management–Related Work Level of Effort**



NOTE: MDA = Missile Defense Agency. NGA = National Geospatial-Intelligence Agency.

RAND RR1254-2.3

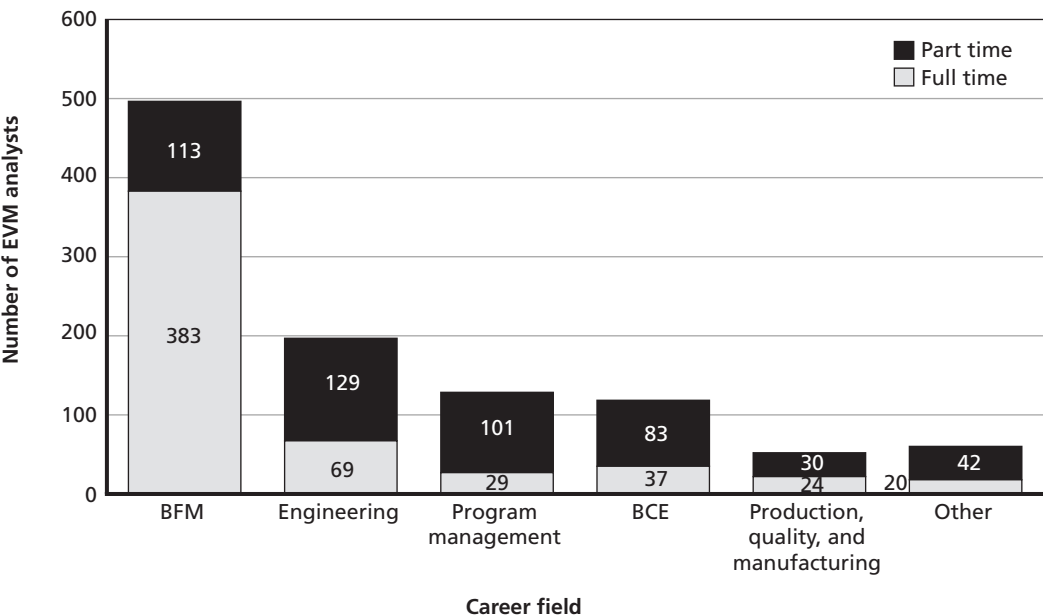
We can also consider the full-time/part-time split by career field. Across DoD, about 53 percent of EVM analysts report performing EVM duties full time.<sup>3</sup> Yet Figure 2.4 shows that there is significant variation in the level of effort that analysts report across designated career fields.<sup>4</sup>

The largest percentage of full-time workers is in the BFM career field, in which about three-quarters of EVM analysts report working in this capacity full time. Production, quality, and manufacturing EVM analysts report the second-largest percentage of full-time workers (44 percent). By contrast, only about one-third of BCE analysts report having full-time EVM responsibilities. Program management, engineering, and analysts reporting an “other” career field all report around one-third of the analysts work EVM full time.

<sup>3</sup> That is, 80 percent or more of their work time.

<sup>4</sup> Figure 2.4 shows the designated career fields reporting at least five analysts.

**Figure 2.4**  
**Earned Value Management Workforce, Government Only, by Career Field and Earned Value Management–Related Work Level of Effort**



NOTE: “Other” includes contracting (three full and nine part time reported), information technology (one full and nine part time reported), science and technology manager (one full and six part time reported), facility engineering (no full and three part time reported), blank (no full and two part time reported), life-cycle logistics (no full and one part time reported), and test and evaluation (no full and one part time reported). In addition, it includes some self-reported career fields that are not recognized DAWIA career fields: DAWIA PCD Y (nine full and ten part time reported), capability manager for transportation (two full and no part time reported), quartermaster capability determination for aerial delivery (two full and no part time reported), EVM (one full and no part time reported), sustainment-related JCIDS (one full and no part time reported), and system acquisition manager (no full and one part time reported).

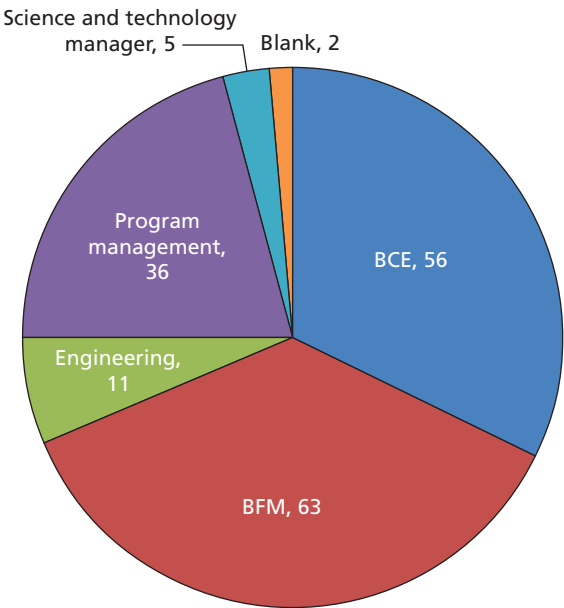
**Earned Value Management Workforce, by U.S. Department of Defense Component**

In order to develop further understanding of how the organization of EVM analysts varies across DoD, we take a closer look at each DoD component.

Figure 2.5 shows the breakdown of Air Force EVM analysts by career field.

In the Air Force, the business career fields constitute 68 percent of the total government EVM workforce (119). The third-largest career field for Air Force EVM analysts is program management, constituting 21 percent of the workforce. Engineering constitutes a smaller overall share of the Air Force workforce (6 percent) than it does for DoD overall (19 percent), owing in part to the large number of analysts in DCMA in the engineering career field.

**Figure 2.5**  
**Government Air Force Earned Value Management**  
**Analysts, by Career Field**



NOTE: *N* = 173.  
RAND RR1254-2.5

Figure 2.6 shows the same analysis for the Navy’s EVM-analyst workforce.

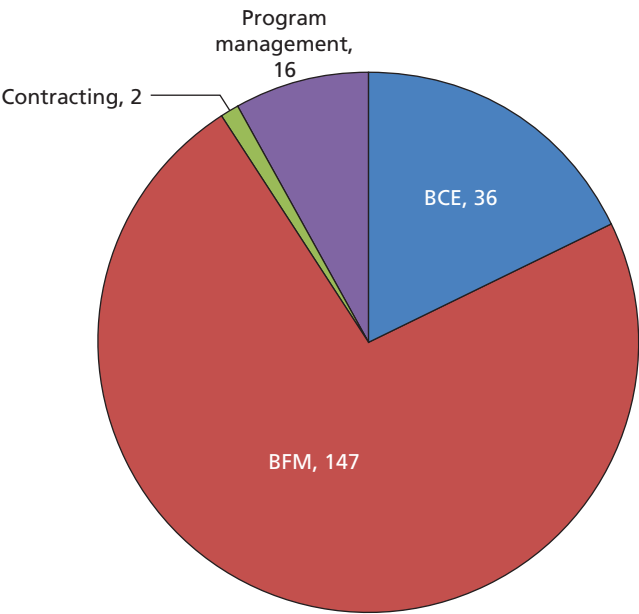
As can be seen in Figure 2.6, more than 90 percent of the Navy’s EVM-analyst workforce is in the business career fields: Three-quarters of the Navy workforce is in the BFM career field, and 18 percent are in the BCE career field. Only 8 percent of Navy analysts are in the program-management career field, compared with 12 percent in the DoD government workforce overall. The Navy DACM representatives reported no EVM analysts in the engineering career field, despite the relatively high percentage of such analysts in the EVM workforce overall.<sup>5</sup> There were two reported Navy analysts in contracting—accounting for about 17 percent of DoD’s small overall population of analysts from this career field.

The Army’s EVM workforce looks notably different from those of the other military departments, as can be seen in Figure 2.7. First, as noted previously, this workforce is smaller than that reported in the Air Force or the Navy. It is also a workforce relatively evenly divided among analysts in BFM (26 percent), program management (24 percent), and BCE (21 percent). There is also more diversity in career fields reported in the Army EVM-analyst workforce. About 7 percent of the Army workforce is in

<sup>5</sup> Analysts in DCMA dominate the engineering workforce of EVM analysts.



**Figure 2.6**  
**Government Navy Earned Value Management Analysts,**  
**by Career Field**



NOTE: *N* = 201.  
RAND RR1254-2.6

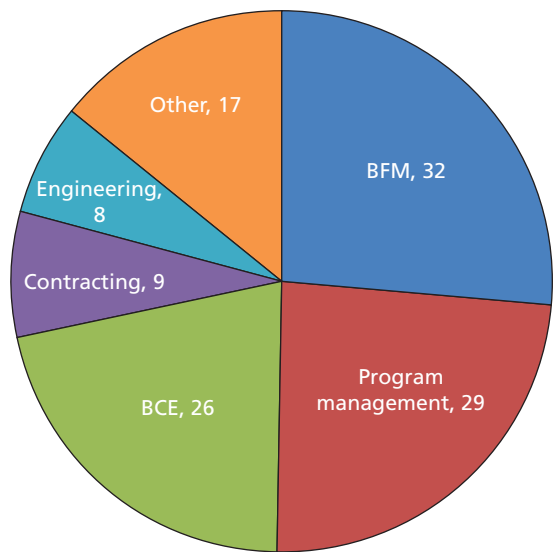
engineering, and about 7 percent are in contracting. The relatively large population of analysts from the contracting career field accounts for 58 percent of the total population of DoD EVM analysts in the contracting career field. More detail regarding the relatively large portion of analysts self-reporting different career fields (“other”) can be seen in the figure notes for Figure 2.7.

EVM analysts in the Fourth Estate provide vital functions within DoD. DCMA conducts surveillance of contractors’ EVM systems, a function that supports the overall integrity of EVM. Reflecting this important role is the finding that EVM analysts in DCMA constitute about half of the overall EVM DoD government workforce.

Figure 2.8 shows the breakdown between the DoD components and the Fourth Estate. Of the 565 analysts reported in the Fourth Estate, 515 are in DCMA. The DCMA total accounts for more than 90 percent of total Fourth Estate EVM and about half of the overall population of DoD’s EVM analysts. The only other defense agencies reporting EVM analysts were MDA (7 percent of the Fourth Estate total) and NGA (2 percent of the Fourth Estate total).

Figure 2.9 shows the breakdown of Fourth Estate EVM analysts by career field. The Fourth Estate is distinct from the military departments in several notable ways. Although BFM makes up the largest share of EVM analysts in the Fourth Estate

**Figure 2.7**  
**Government Army Earned Value Management Analysts, by Career Field**



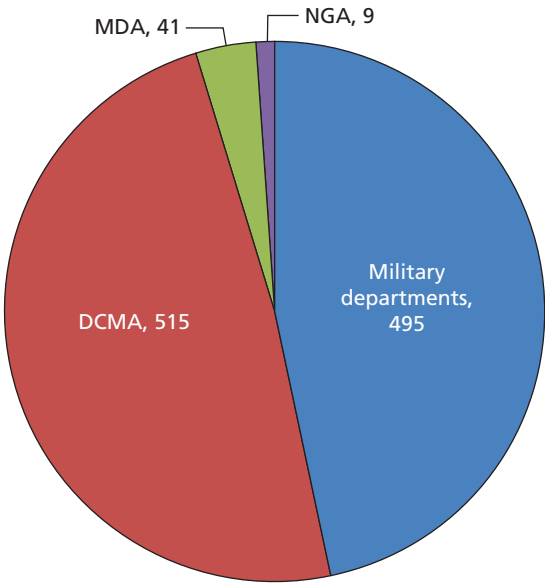
NOTE: *N* = 121. “Other” includes information technology (four reported); facility engineering (three reported); production, quality, and manufacturing (two reported); and life-cycle logistics (one reported). In addition, it includes some self-reported career fields that are not recognized DAWIA career fields: capability manager for transportation (two reported), quartermaster capability determination for aerial delivery (two reported), EVM (one reported), sustainment-related JCIDS (one reported), and system acquisition manager (one reported).

RAND RR1254-2.7

(45 percent), notably, BCE has relatively low representation. Only two analysts in the Fourth Estate reported being in the BCE career field. The Fourth Estate is also a workforce constituted, to a much larger degree, of analysts in the engineering career field. More than 90 percent of EVM analysts in engineering are in DCMA. In the Fourth Estate, about 32 percent of the EVM-analyst workforce are engineers—a much larger percentage than seen in DoD overall (19 percent). Relative to the military departments, the Fourth Estate workforce also has a larger number and overall percentage of analysts in the production, quality, and manufacturing career field.

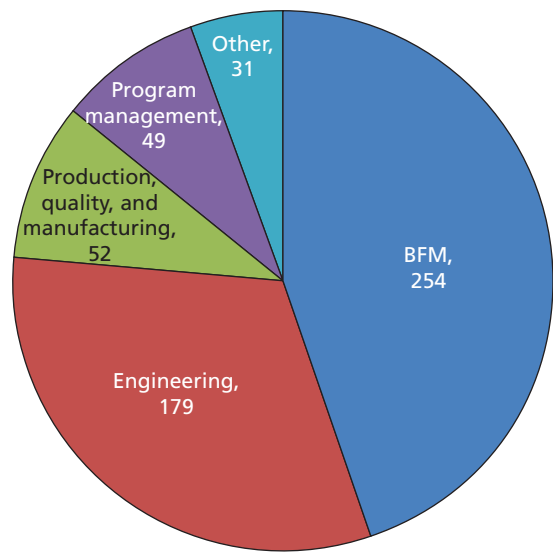
Table 2.4 shows the breakdown of the Fourth Estate data by agency and career field. Note that the relatively small population of analysts in MDA and NGA are entirely concentrated in the business career fields.

**Figure 2.8**  
**Government Earned Value Management**  
**Analysts**



NOTE: *N* = 1,060.  
RAND RR1254-2.8

**Figure 2.9**  
**Government Fourth Estate Earned Value Management Analysts, by Career Field**



NOTE: *N* = 565. “Other” includes information technology (six reported), science and technology manager (two reported), BCE (two reported), test and evaluation (one reported), and contracting (one reported). In addition, it includes one self-reported career field that is not a recognized DAWIA career field: DAWIA PCD Y (19 reported).

RAND RR1254-2.9

**Table 2.4**  
**Government Fourth Estate Population of Earned Value Management Analysts, by Career Field**

Defense Agency	BFM	BCE	Engineering	Program Management	Production, Quality, and Manufacturing	Other	Total
DCMA	206	0	179	49	52	29	515
MDA	39	2	0	0	0	0	41
NGA	9	0	0	0	0	0	9
Total	254	2	179	49	52	29	565

## Potential Applications

---

The data on the EVM workforce can support decisionmaking in several human-capital areas. Specific consumers of this data analysis could include people who administer or exercise oversight of EVM workforce career-management programs (e.g., recruitment, selection, career development, retention, or strategic planning). The EVM FIPT might be interested in tracking development along several or all of these areas. DAU plays a vital role in meeting the DAW's certification requirements; analysis of the EVM workforce might also support DAU's decisionmaking with respect to curriculum development and certification requirements. Finally, the functional leadership of career fields in which EVM analysts are highly represented could benefit from additional insight into the nature of the EVM workforce. This chapter briefly discusses potential applications of EVM workforce data.

### Questions Related to Earned Value Management Workforce Management

The EVM FL has broad responsibilities for overseeing the current and future competency needs of the EVM-analyst workforce and associated development requirements and for meeting the future human-capital needs of the workforce.

The EVM-analyst data call can be used to support analyses and assessments in several of these areas. Recurring data collection, as was initially intended, rather than the single snapshot eventually fielded, would be more useful for supporting decisions regarding the development of the workforce over time. However, the snapshot provided by the current data call equips PARCA with new visibility into the EVM-analyst workforce that can support decisionmaking in several areas.

With respect to competency development, the data call provides visibility into the workforce of analysts who use EVM to do their jobs. This information could be used to help shape EVM-related content in the competency models of designated career fields.

It could also support curriculum development at DAU. The alignment to career-field competencies and curriculum could support assessments of such questions as these:

- How should EVM competencies be reflected in the competency models of designated career fields?
- To what extent are students at DAU who are taking EVM courses the right people for the course, and are the students receiving the right training?
- Is the education and are the qualifications of the EVM workforce appropriate (e.g., do program issues correlate with low qualifications)?

The data call also provides decisionmakers with valuable insight into the size and workforce mix of DoD's EVM analysts. The relative balance of the total force among military, civilian, and contractors could have implications for the professional development, training and certification, and career planning for the EVM workforce. The data call is a first step toward supporting assessments of such questions as these:

- Is staffing sufficient to support the workload?
- Is the EVM workforce mix appropriate (i.e., civilian, military, contractor mix)? How might the current mix evolve over time?

Lessons learned from analysis of the EVM-analyst data might also shed light onto the varied ways EVM analysts support a program office. The data show notable variation across both career fields and DoD component. The level of effort data suggests that the role EVM plays in analysts' overall professional responsibilities varies as well. The variation suggests that EVM analysts might be used differently by different organizations, and that a program office may need EVM expertise at different phases of the acquisition program. Additional research could help decisionmakers explore more deeply the different ways EVM is used in DoD and perhaps identify best practices. Such questions are not addressable with the snapshot view this data call provided but might warrant future research.

## **Notional Approach to Rebalancing Certification Requirements**

One potential application of EVM workforce data would be to support analyses of options for rebalancing DAWIA certification requirements. As we describe this potential application, however, note that options for rebalancing required courses or certification requirements are entirely notional. The intent is only to describe ways in which these data could inform decisionmaking in several areas.

As we have seen, the largest portion of EVM analysts, by far, is in the BFM career field. We also know, however, that the workforce in the BFM career field is much more expansive than EVM. Data provided regularly by HCI indicates that, in the third

quarter of FY 2013, the BFM workforce included 6,514 personnel, far exceeding the 474 government EVM analysts reported in the data call.

The link between EVM analysts and the BFM community is one reason that advanced EVM coursework is currently required for DAWIA certification for the BFM community. Yet there has been debate about the extent to which advanced EVM coursework should be required for BFM certification. A 2014 report by the Center for Naval Analyses provided an important input to the question of what portion of the BFM and BCE workforce use EVM for their jobs (Griffis, Pittsonberger, and Stafford, 2014).<sup>1</sup> The center found that fewer than 20 percent of survey respondents in both the BFM and BCE career fields reported doing EVM “frequently” or “very frequently” (Griffis, Pittsonberger, and Stafford, 2014, pp. 18–19). However, survey respondents in the business career field *who do use* EVM reported that it was very important for doing their jobs. “Among the small number of respondents who indicate they do EVM,” the center reported, “criticality and proficiency of EVM competencies are both marked high” (Griffis, Pittsonberger, and Stafford, 2014, p. 21).

The center’s report, coupled with the survey data analysis results, suggests that most BFM personnel do not use EVM in their jobs but, just as importantly, also that most EVM analysts are in BFM and that, for these analysts, EVM is critical for their work. Given this, perhaps there are opportunities to rebalance courses required at various certification levels to ensure that BFM personnel who *do* use EVM can have access to classes and that the majority of BFM personnel who *do not* use EVM are not required to take courses.

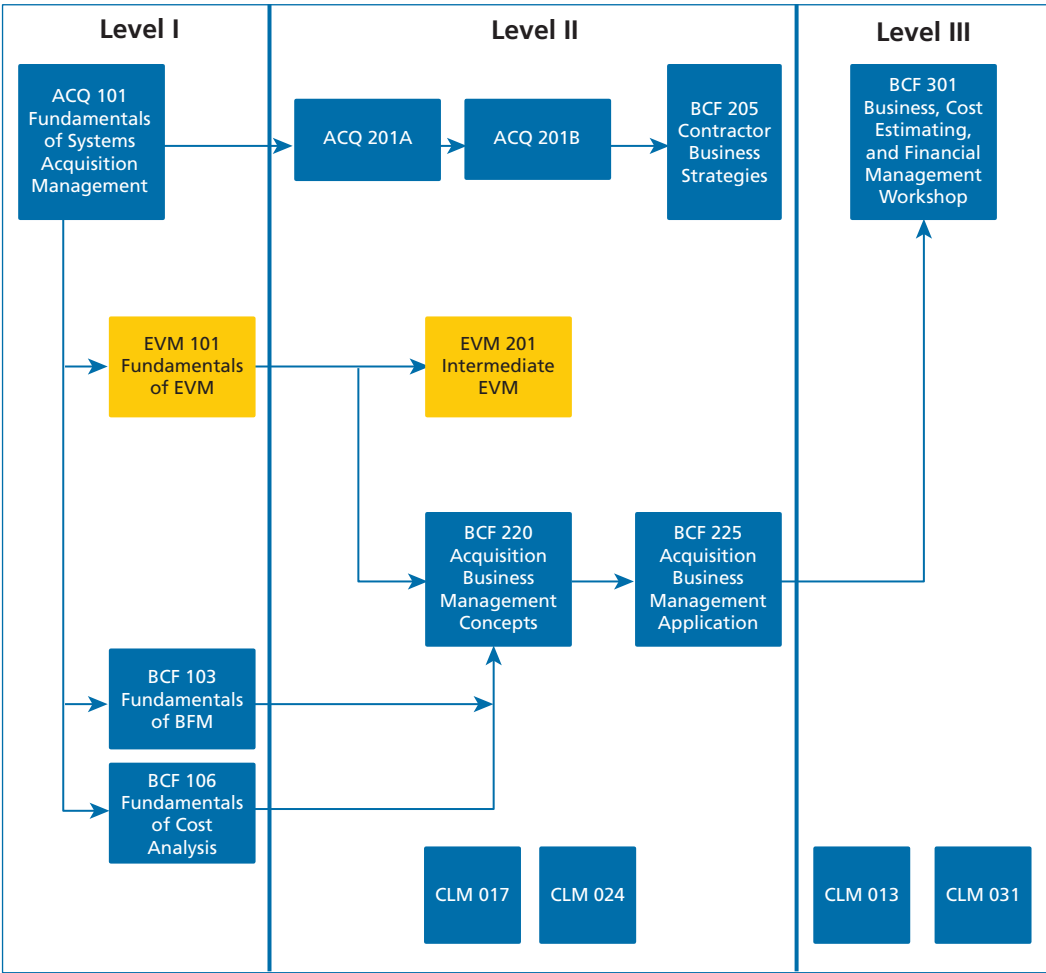
See Figure 3.1 for an illustration of where EVM courses currently fit into DAWIA certification requirements for the BFM workforce.

As indicated in Figure 3.1, EVM 101 (Fundamentals of EVM) is required for level I certification and EVM 201 (Intermediate EVM) is required for level II. Given the small fraction of BFM personnel who use EVM, the requirement for EVM 201 at level II might be excessive. Rebalancing requirements to reflect the nature of the workforce is a vitally important way to ensure that the right students have the appropriate prioritization needed to get into the classes necessary to develop appropriate skills to carry out their jobs effectively.

DoD students are admitted to DAU courses on the basis of a quota system managed by the service DACMs. They establish priorities for their military and civilian personnel based on such factors as whether the student is in an acquisition-coded billet, the education requirements of a given position, or the DAWIA certification requirements in a given career field (DAU, undated [b]). This means that only the highest-priority students can be admitted to a given course. A student seeking to be admitted to a course but failing to capture one of the slots allocated to that student’s organization’s DACMs is put on a waitlist in the hope that another organization will not use all of its

<sup>1</sup> The center also previously developed a competency model for the business workforce (Pittsonberger, 2011).

**Figure 3.1**  
**Business—Financial Management, Required Courses for Level I and Level II**



SOURCE: DAU, undated (a).  
NOTE: ACQ = acquisition. BCF = business, cost estimating, and financial management. CLM = continuous learning module.  
RAND RR1254-3.1

allocated seats. Some distance-learning courses are available online, which can mitigate the challenge of having demand that exceeds supply of available seats. EVM 101, for example, is available online, while EVM 201 is not. However, even distance-learning courses do not have infinite capacity, and students seeking to be admitted to these courses periodically face waitlists (DAU, undated [b]). Aligning course requirements with professional needs provides an opportunity to ensure that prioritization appropriately reflects professional needs and that students who need EVM for their jobs can enroll in appropriate courses. Of course, any decision to rebalance certifications in this

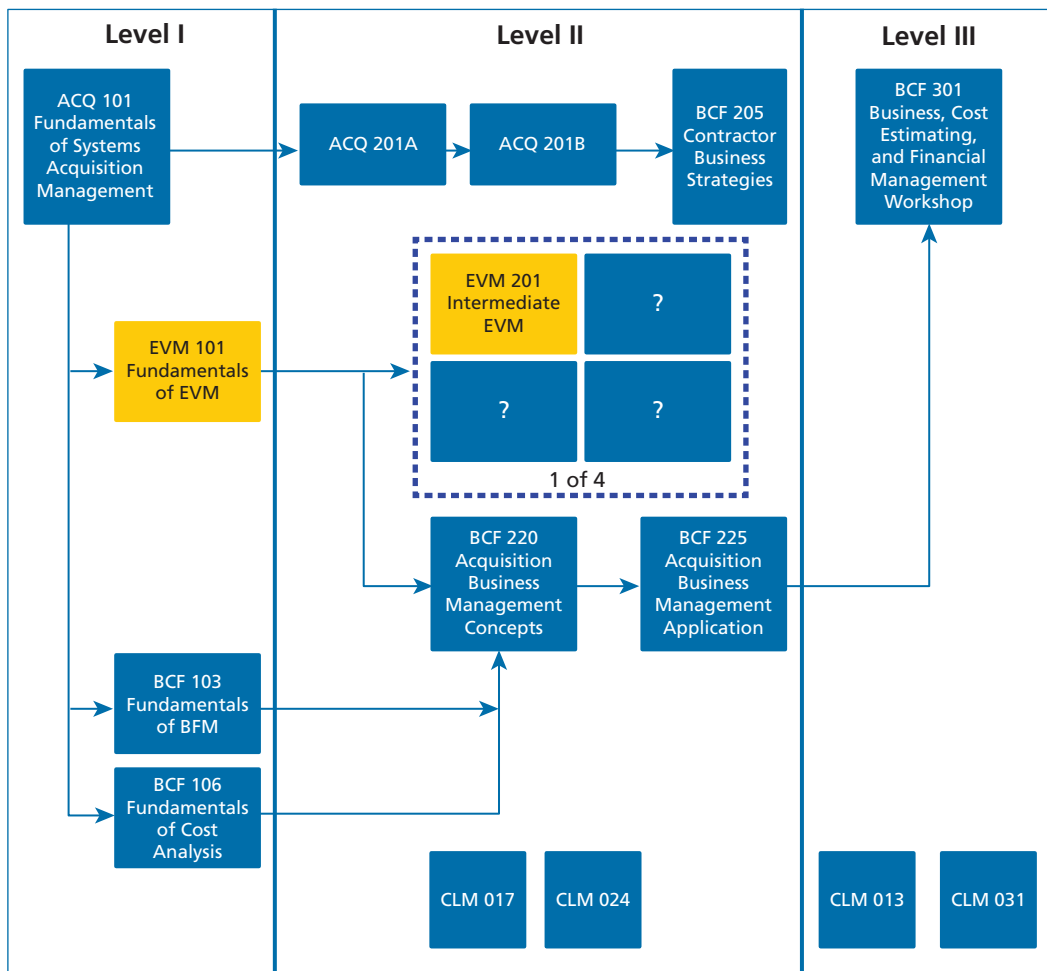


way should take into account not just whether EVM is used in a worker's current position but also whether it is likely that EVM will be used in the course of an acquisition career.

Figure 3.2 shows a potential notional adjustment that would rebalance level I and level II requirements in a way that would allow students to tailor coursework to the specific information necessary for doing their jobs.

As illustrated in Figure 3.2, making EVM 201 one course out of several that could be used to fulfill the level II certification requirement would allow DACMs to tailor the priority-based quota system used to admit students, thereby opening up seats for BFM students who need to take it and allowing students who do not use EVM to

**Figure 3.2**  
**Notional Adjustment of Business—Financial Management, Required Courses for Level I and Level II**



choose classes from a list that might better align with their professional duties. It would also allow for a more-tailored experience, without additional coursework.

Clearly, implementing such a change would require extensive engagement with DAU and the functional community affected to ensure that the community's needs are being met. However, as the FL of the EVM workforce, the PARCA EVM division also has an interest in ensuring that its community's education and training needs are being met. Workforce data developed in the EVM data call offer valuable insight to inform options for rebalancing requirements.

## Concluding Observations

---

EVM analysts' role as a cross-functional community of the DAW presents a unique challenge for maintaining the visibility required to support effective management of EVM competencies and of the EVM-analyst workforce. The EVM-analyst data call, conducted in support of the execution of PARCA's responsibilities as FL for EVM, provided new insight into the distribution of analysts by career field and DoD component than had previously existed and helped PARCA execute its responsibilities to manage EVM competencies, curriculum, and the professional development of analysts. It reflects the unique requirements of a cross-functional community, for which DoD does not systematically track personnel data.

Notably, however, this look at DoD's EVM-analyst workforce is just a snapshot in time and should be considered the beginning rather than the end of DoD's efforts to systematically track this important element of the DAW. It suggests significant differences in the use and organization of the EVM analysts across the department, which, if better understood, could have implications for identification of best practices or lessons learned.





## **Earned Value Management Workforce Data-Call Memo**

---

Figure A.1 reproduces the action memorandum referenced in the report.

**Figure A.1**  
**The Action Memorandum**

 <b>ACQUISITION, TECHNOLOGY AND LOGISTICS</b>	<b>OFFICE OF THE UNDER SECRETARY OF DEFENSE</b> 3000 DEFENSE PENTAGON WASHINGTON, DC 20301-3000
<b>ACTION MEMO</b>	
February 20, 2014	
<b>FOR: ACQUISITION CAREER MANAGERS SUPPORTING THE EVM FIPT</b> <b>FROM: DD EVM, PERFORMANCE ASSESSMENTS AND ROOT CAUSE ANALYSES</b> <b>SUBJECT: OFFICIAL REQUEST FOR DATA CALL AND IMPLEMENTATION OF REPORTING REQUIREMENTS OF DEFENSE ACQUISITION WORKFORCE PERSONNEL PERFORMING AS EVM ANALYSTS OR EVM PRACTITIONERS</b>	
<ul style="list-style-type: none"><li>• The purpose of the EVM workforce data call is to identify and build understanding of the EVM workforce population. Information will be used to support education and training needs for all AT&amp;L workforce personnel (Military, Civilian, and Contractors) using EVM.</li><li>• Requesting that the Acquisition Career Managers identify EVM Analysts as described in Appendix A of the attached EVM Workforce Data Call Requirements document. Please provide data using Attachment A.2 – EVM Workforce Data Collection Templates.</li></ul>	
<b>RECOMMENDATION:</b> Please acknowledge receipt of this memo and both attachments by sending a confirmation email to PARCA EVM support team: James Allen (james.j.allen110.ctr@mail.mil) Kim Hunter (kimberly.a.hunter10.ctr@mail.mil) Heather Smoot (heather.r.smoot.ctr@mail.mil)	
<b>COORDINATION:</b> Please send completed data collection templates per the agreed upon due date listed in A.1 – EVM Workforce Data Call Requirements document.	
<b>ATTACHMENTS:</b> A.1 - EVM Workforce Data Call Requirements A.2 - EVM Workforce Data Collection Templates	
 Gordon M. Kranz Deputy Director PARCA - EVM	
Prepared By: James Allen, PARCA - EVM, 703-697-3848	

## References

---

Carter, Ashton B., Under Secretary of Defense for Acquisition, Technology and Logistics, “Earned Value Management (EVM) Systems Performance, Oversight, and Governance,” memorandum for secretaries of the military departments, chairman of the Joint Chiefs of Staff, under secretaries of defense, deputy chief management officer, commanders of the combatant commands, director of cost assessment and program evaluation, director of operational test and evaluation, general counsel of the U.S. Department of Defense, inspector general of the U.S. Department of Defense, assistant secretaries of defense, assistants to the secretaries of defense, director of administration and management, director of net assessment, directors of the defense agencies, and directors of the U.S. Department of Defense field activities, August 10, 2011. As of July 16, 2015:  
[http://www.acq.osd.mil/evm/docs/PARCA\\_Authorities\\_Memo.pdf](http://www.acq.osd.mil/evm/docs/PARCA_Authorities_Memo.pdf)

DAU—See Defense Acquisition University.

Defense Acquisition University, “Certification and Core Plus Development Guides,” undated (a). As of February 12, 2015:

<http://icatalog.dau.mil/onlinecatalog/CareerLvl.aspx>

———, “Eligibility and Course Registration,” undated (b). As of July 13, 2015:

<http://www.dau.mil/faq/Pages/Eligibility.aspx>

“Earned Value Management (EVM) Functional Integrated Product Team (FIPT) Charter,” June 10, 2014; signed by signatories June–July 2014.

EVM FIPT charter, 2014—See “Earned Value Management (EVM) Functional Integrated Product Team (FIPT) Charter,” 2014.

Gates, Susan M., Elizabeth Roth, Sinduja V. Srinivasan, and Lindsay Daugherty, *Analyses of the Department of Defense Acquisition Workforce: Update to Methods and Results Through FY 2011*, Santa Monica, Calif.: RAND Corporation, RR-110-OSD, 2013. As of October 21, 2015:

[http://www.rand.org/pubs/research\\_reports/RR110.html](http://www.rand.org/pubs/research_reports/RR110.html)

Griffis, Henry, Jayme Pittsonberger, and Darlene Stafford, *Financial Management and Cost Estimating Workforce Competency Assessment: FIPT Update Brief*, Center for Naval Analyses, July 9, 2014.

Higgins, Jonathan, and Jeb Ramsey, “Acquisition Training: 4th Estate Presentation, DAU South Conference,” February 18, 2009. As of October 23, 2015:

<https://acc.dau.mil/adl/en-US/281650/file/43235/Jonathan%20Higgins%20-%20DAU%20South%20Conf%20-%20Feb%202009%20-%204th%20Estate%20DACM%20Slides.ppt>

“Human Capital Initiatives,” undated. As of December 12, 2014:

<http://dap.dau.mil/workforce/Pages/Default.aspx>

Kendall, Frank, Under Secretary of Defense for Acquisition, Technology, and Logistics, “Expansion of International Acquisition Career Path,” memorandum for service acquisition executives; functional leader for acquisition management; functional leader for auditing; functional leader for business, cost estimating, and financial management; functional leader for contracting, purchasing, and property; functional leader for engineering; functional leader for facility engineering; functional leader for life-cycle logistics; functional leader for information technology; functional leader for science and technology; functional leader for technical management; functional leader for test and evaluation; director for human-capital initiatives; director for acquisition career management; and director for component acquisition career management, Washington, D.C., September 2, 2014. As of October 30, 2015:

<https://acc.dau.mil/CommunityBrowser.aspx?id=712945>

Krieg, Kenneth J., Under Secretary of Defense for Acquisition, Technology and Logistics, “Use of Earned Value Management (EVM) in the Department of Defense,” memorandum, July 3, 2007.

Pittsonberger, Jayme, *Business Workforce Competency Assessment Report*, Center for Naval Analyses, August 2011. As of October 21, 2015:

<https://dap.dau.mil/workforce/Documents/Comp/DoD%20ATL%20Defense%20Acquisition%20Workforce%20Competency%20Model%20-%20Business%20Fin%20CE.pdf>

Public Law 101-510, Defense Acquisition Workforce Improvement Act, November 5, 1990. As of October 30, 2015:

<http://www.gpo.gov/fdsys/pkg/STATUTE-104/pdf/STATUTE-104-Pg1485.pdf>

Public Law 111-23, Weapon Systems Acquisition Reform Act of 2009, May 22, 2009. As of October 23, 2015:

<http://www.gpo.gov/fdsys/pkg/PLAW-111publ23/content-detail.html>

Yardley, Roland J., Jessie Riposo, Mark V. Arena, James Dryden, Sean Robson, Daniel Tremblay, and Rachel Tesler, *Developing and Vetting Earned Value Management (EVM) Competencies for Program Management Offices*, Santa Monica, Calif.: RAND Corporation, 2013. Not available to the general public.



The role of earned value management (EVM) as a tool for integrated program management across the U.S. Department of Defense (DoD) has increased in prominence in recent years. The focal point for all policy, guidance, and competency relating to EVM is the deputy director of the Performance Assessments and Root Cause Analyses (PARCA) Earned Value Management (EVM) division, who serves as the functional lead for EVM, a cross-functional acquisition community. As a cross-functional community, EVM faces challenges in workforce management that communities in designated career fields do not face. EVM is not a career field in itself, and DoD does not systematically track its workforce for the purposes of workforce planning in the same way that it tracks members of designated career fields. The research reported here surveyed the DoD EVM-analyst workforce and described the population across several dimensions. Yet, insight into the EVM-analyst workforce is necessary for the execution of PARCA's responsibilities to support the development and integration of EVM competencies across the defense acquisition workforce.



NATIONAL DEFENSE RESEARCH INSTITUTE

[www.rand.org](http://www.rand.org)

\$16.50

ISBN-10 0-8330-9196-4  
ISBN-13 978-0-8330-9196-3

